



United States General Accounting Office

## Survey of Year 2000-related Electronic Data Exchange Issues

The Ranking Minority Member of the Subcommittee on Technology, House Committee on Science, has asked GAO to perform a governmentwide review of efforts to address the Year 2000 problem associated with electronic data exchanges.

Specifically, we have been asked to identify (1) key actions taken to address electronic data exchanges among federal, state, and local governments; and (2) efforts to minimize the potential adverse impact of non-compliant Year 2000 data from foreign sources on our nation's computer systems.

Your participation in this survey is critical, and we appreciate your time in assisting us in this inquiry. The questions in this survey can be answered by filling in the blanks. We are providing a computer disk containing the questionnaire in both WordPerfect 6.0 and Microsoft Word 7.0 formats, for your use in replying. It is important that you answer every question.

We know that in some cases the state Year 2000 program office will have the state-level data exchange information readily available. In other cases the data exchange information may be available only at the state's component-level organizations, and must therefore be collected and aggregated. In either case,

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We are also asking that you provide the name and telephone number of a contact for your state who can answer any questions we may have about your questionnaire responses.

### State Contact

Name: \_\_\_\_\_  
Title: \_\_\_\_\_  
Organization: \_\_\_\_\_  
\_\_\_\_\_  
Telephone: \_\_\_\_\_  
Fax: \_\_\_\_\_  
E-mail: \_\_\_\_\_

If you have any questions, please contact:

**James Hamilton**  
Voice: (202) 512-6271  
Fax: (202) 512-6451

State: \_\_\_\_\_

1. For your mission-critical systems, please provide the following status information:
  - a. # \_\_\_\_\_ mission-critical systems
  - b. # \_\_\_\_\_ mission-critical systems with external data exchanges (incoming or outgoing)
2. For your mission-critical systems with **external** data exchanges (1.b.), please provide the number of
  - a. # \_\_\_\_\_ incoming external data exchanges
  - b. # \_\_\_\_\_ outgoing external data exchanges
  - c. # \_\_\_\_\_ total incoming and outgoing data exchanges

(An electronic data exchange is the transfer (sending or receiving) of a data set using electronic media. All revisions to data exchanges (for example, timing or format), require notifications and/or agreements with each exchange partner. For consistency of reporting, a data set transferred to 5 exchange partners would constitute 5 data exchanges.)

3. For the mission-critical systems with **external** data exchanges (2.c.), please provide the number of external **data exchanges** that you have which meet each of the following conditions. (An external exchange is an exchange with an entity that is outside of your state.)
  - a. # \_\_\_\_\_ assessed for Year 2000 compliance
  - b. # \_\_\_\_\_ not assessed for Year 2000 compliance

For those assessed (3.a.):

- c. # \_\_\_\_\_ identified as compliant
- d. # \_\_\_\_\_ identified as non-compliant

For those identified as non-compliant (3.d.):

- e. # \_\_\_\_\_ developed a validation process for incoming external data
- f. # \_\_\_\_\_ determined a need for data bridges or filters
- g. # \_\_\_\_\_ developed contingency plans if no data are received from an external source
- h. # \_\_\_\_\_ developed contingency plans for invalid data

5. For mission-critical systems with **external** data exchanges (2.c.), please provide, for each type of entity listed, the number of such **external** entities involved, total external exchanges with these entities, external exchanges where the entity has been contacted, and external exchanges where agreements have been reached on the resolution of problems.

Please fill in the numbers in the spaces provided.

<u>Type of Entity</u>	Number of External <u>Entities</u>	----- External Exchanges -----		
		<u>Total</u> <u>Exchanges</u>	<u>Contacts</u> <u>Made</u>	<u>Agreements</u> <u>Reached</u>
Other states	a. _____	b. _____	c. _____	d. _____
Federal agencies	e. _____	f. _____	g. _____	h. _____
Local governments/authorities	i. _____	j. _____	k. _____	l. _____
U.S. private sector	m. _____	n. _____	o. _____	p. _____
Foreign government	q. _____	r. _____	s. _____	t. _____
Foreign private sector	u. _____	v. _____	w. _____	x. _____

6. a. Has your organization, or your component organizations, adopted a date format standard for data exchanges with external entities?
- \_\_\_\_\_ Yes (continue with part b. - provide answers for each component organization, if applicable)  
 \_\_\_\_\_ No (skip to part c.)
- b. If yes, has your organization adopted the 4-digit contiguous year format as specified by FIPS 4-1 and OMB Memorandum of April 8, 1997?
- \_\_\_\_\_ Yes (skip to question 7)  
 \_\_\_\_\_ No (continue with part c.)
- c. If your organization has not adopted a 4-digit contiguous year format for data exchanges, please describe the date format(s) your organization is using.

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7. What are the number of your current and planned external data exchanges that use the following message formats? Please fill in the numbers in the spaces provided.

<u>Current</u>	<u>Additional Planned</u>	<u>Format</u>
a. # _____	i. # _____	ANSI ASC X12
b. # _____	j. # _____	Fedwire
c. # _____	k. # _____	CHIPS
d. # _____	l. # _____	HL7
e. # _____	m. # _____	UN/EDIFACT
f. # _____	n. # _____	EDI Medicare
g. # _____	o. # _____	flat file
h. # _____	p. # _____	other (describe) _____

8. What types of mission-related effects may result if external data exchange failures occur, such as the inability to transfer payments, process applications for program benefits or grants, monitor program operations, etc.?

\_\_\_\_\_  
\_\_\_\_\_

Regulatory/Oversight Responsibilities

9. Do you, or your component organizations, have regulatory/oversight responsibilities over organizations that use electronic data exchanges to support their mission-critical systems?

\_\_\_\_\_ Yes (continue - provide answers for each component organization, if applicable)  
\_\_\_\_\_ No (go to question 14)

10. What types of organizations do you regulate/oversee?

\_\_\_\_\_  
\_\_\_\_\_

11. For organizations over which you have regulatory/oversight responsibility, what approach have you used in working with the organizations to address Year 2000 problems so that they will be able to exchange data needed for mission-critical operations? (check all that apply)

12. Which of the following message formats are these organizations using or planning to use? (check all that apply)

<u>Current</u>	<u>Additional Planned</u>	<u>Format</u>
a. _____	i. _____	ANSI ASC X12
b. _____	j. _____	Fedwire
c. _____	k. _____	CHIPS
d. _____	l. _____	HL7
e. _____	m. _____	UN/EDIFACT
f. _____	n. _____	EDI Medicare
g. _____	o. _____	flat file
h. _____	p. _____	other (describe)
		_____
		_____

13. a. Are you, or your component organizations, monitoring the progress of those organizations over which you have regulatory/oversight responsibilities in addressing Year 2000 date conversion problems?

\_\_\_\_\_ Yes (continue - provide answers for each component organization, if applicable)

\_\_\_\_\_ No (go to question 14)

- b. If yes, please provide the actual or your best estimate of the percent of the organizations that fall into each of the following categories. (answers should total 100 percent)

1. % \_\_\_\_\_ Organization is not aware of the issues
2. % \_\_\_\_\_ Aware of the issues, may have informal inventory and estimates
3. % \_\_\_\_\_ Have a detailed inventory and cost estimates
4. % \_\_\_\_\_ Have a detailed plan, resources allocated, project underway
5. % \_\_\_\_\_ All mission-critical changes complete
6. % \_\_\_\_\_ All changes complete

- c. Please indicate whether the above information is based on:

7. \_\_\_\_ actual data reported to you

International Data Exchanges

14. Do you, or your component organizations, have regulatory/oversight responsibility for organizations that use electronic data exchanges with entities located outside of the United States?

\_\_\_\_\_ Yes (continue - provide answers for each component organization, if applicable)

\_\_\_\_\_ No (go to question 19)

15. How are you working with these organizations to address Year 2000 problems with international data exchanges?

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16. a. For organizations performing international data exchanges, are you, or your component organizations, monitoring their progress in addressing Year 2000 date conversion problems?

\_\_\_\_\_ Yes (continue - provide answers for each component organization, if applicable)

\_\_\_\_\_ No (go to question 19)

- b. Please provide the actual or your best estimate of the percent of the organizations that fall in each of the following categories. (answers should total 100 percent)

- 1. % \_\_\_\_\_ Organization is not fully aware of the issues
- 2. % \_\_\_\_\_ Aware of the issues, may have informal inventory and estimates
- 3. % \_\_\_\_\_ Have a detailed inventory and cost estimates
- 4. % \_\_\_\_\_ Have a detailed plan, resources allocated, project underway
- 5. % \_\_\_\_\_ All mission-critical changes complete
- 6. % \_\_\_\_\_ All changes complete

- c. Please indicate whether the above information above is based on:

7. \_\_\_\_\_ actual data reported to you

8. \_\_\_\_\_ your best estimate

- d. What is your estimate of the number and percent of these organizations that are at risk of not resolving date conversion problems before the Year 2000?

17. Which formats are these organizations using or planning to use for international data exchanges? (check all that apply)

<u>Current</u>	<u>Additional Planned</u>	<u>Format</u>
a. _____	i. _____	ANSI ASC X12
b. _____	j. _____	Fedwire
c. _____	k. _____	CHIPS
d. _____	l. _____	HL7
e. _____	m. _____	UN/EDIFACT
f. _____	n. _____	EDI Medicare
g. _____	o. _____	flat file
h. _____	p. _____	other (describe) _____

18. What international forums are available for these organizations to use in addressing Year 2000 problems?

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Overall

19. What barriers, if any, must be overcome in your efforts to resolve Year 2000 data exchange problems?

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20. Please feel free to provide us with any other comments you feel will help us meet our study objectives.

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## **GLOSSARY**

<b>ANSI ASC X12</b>	American National Standards Institute Accredited Standards Committee X12. These are the electronic data interchange standards governing transaction sets, segments, data elements, code sets, and interchange control structures. Standards provide the framework for how a specific EDI message will be formatted for transmission.
<b>Bridge</b>	In the context of the Year 2000 problem, a software capable of distinguishing between 2-digit and 4-digit year formats. Bridges are used to convert the incoming data to an appropriate date format when the sending system is not Year 2000 compliant.
<b>CHIPS</b>	The Clearing House Interbank Payments System: a computerized network for transfer of international dollar payments. CHIPS links 115 depository institutions having offices in New York City.
<b>Contingency plan</b>	In the context of the Year 2000 problem, a plan for responding to the inability of a system to operate due to a failure to achieve Year 2000 compliancy. In general, a contingency plan describes the steps the enterprise would take--including the activation of manual or contract processes--to ensure the continuity of its core business processes in the event of a Year 2000-induced system failure.
<b>EDI</b>	Electronic data interchange. The electronic transfer of pre-formatted business documents, such as purchase orders and bills of lading, between trading partners.
<b>Filter</b>	A software that processes an input data stream into an output data stream in some well-defined way. In the context of the Year 2000 problem, software that filters out incoming non-compliant date data.
<b>EDI Medicare</b>	ANSI ASC X12 standards for the formatting and transmission of Medicare documents.
<b>Fedwire</b>	The Federal Reserve Bank's electronic funds and securities transfer service. Fedwire is used by Federal Reserve Banks and branches, the Department of the Treasury, other government agencies, and depository institutions.
<b>FIPS 4-1</b>	Federal Information Processing Standards Publication 4-1. Representation for



<b>System</b>	A system may be defined as a collection of software applications designed to support one or more distinct business processes.
<b>UN/EDIFACT</b>	United Nations-supported international electronic message standard for administration, commerce, and transport.
<b>Validation</b>	The process of evaluating a system, component, or computer system output to determine whether it satisfies specified requirements.